

**(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)**

**(19) World Intellectual Property Organization  
International Bureau**



**(43) International Publication Date  
3 February 2005 (03.02.2005)**

PCT

(10) International Publication Number  
**WO 2005/010599 A1**

(51) **International Patent Classification<sup>7</sup>:** G02F 1/13, 1/1362, H05K 3/36

(21) **International Application Number:** PCT/IB2004/051285

(22) **International Filing Date:** 26 July 2004 (26.07.2004)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**  
PCT/IB03/03385 29 July 2003 (29.07.2003) IB

(71) **Applicant (for all designated States except US):** KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) **Inventor; and**

(75) **Inventor/Applicant (for US only):** MATSUURA, Noriyoshi [JP/JP]; c/o Philips Japan, Ltd., Philips Bldg., 2-13-37, Kohnan, Minato-ku, Tokyo 108-8507 (JP).

(74) **Agents:** TSUGARU, Susumu et al.; c/o Philips Japan, Ltd., Philips Bldg., 2-13-37, Kohnan, Minato-ku, Tokyo 108-8507 (JP).

(81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

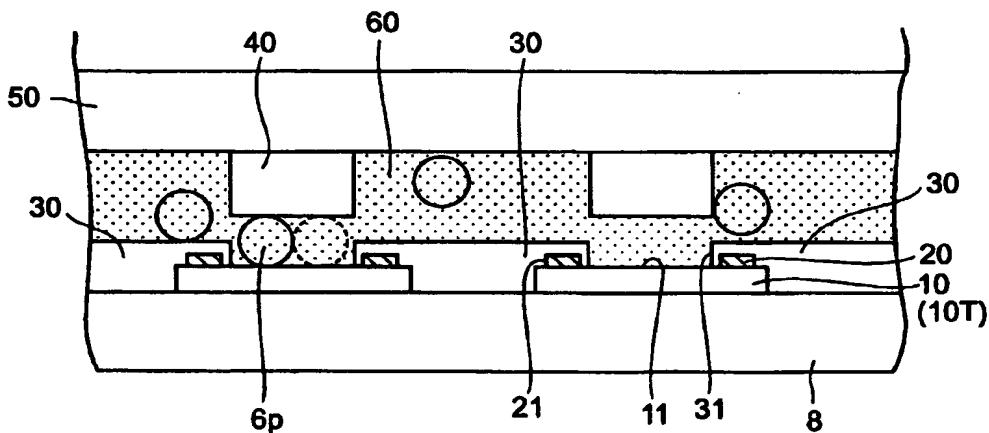
(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**  
— with international search report

**Published:**  
— *with international search report*

[Continued on next page]

**(54) Title: ELECTRONIC APPARATUS WITH A WIRING TERMINAL**



**(57) Abstract:** An object of the invention is to provide a terminal structure which can reduce a connection resistance and prevent corrosion and to provide an electronic apparatus based on the terminal structure. An electronic apparatus comprising a transparent conductive layer (10) supported by a substrate (8) and a metal layer (20) of a material having a resistivity lower than that of the transparent conductive layer (10), the metal layer (20) being extended on the transparent conductive layer (10), the transparent conductive layer (10) having an oxidation resistivity higher than that of the metal layer (20) and forming a terminal (10T) for connecting to peripheral circuitry (50). The metal layer (20) extends on an extending portion (10L) of the transparent conductive layer (10) outside the terminal (10T) of the transparent conductive layer (10), and/or on the periphery of or in the vicinity of a coupling area (11) for making the transparent conductive layer (10) to be exposed to the exterior within an area of the terminal (10T) of the transparent conductive layer (10). There is provided an electrically insulating layer (30) which covers at least a part of the terminal (10T) of the transparent conductive layer (10) and the whole of the metal layer (20) and which extends on the area other than the coupling area (11) within the area of the terminal (10T) of the transparent conductive layer (10).



*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*